

## CLAIMS

1. Container for packaging products, which has a wall made of a thermoplastic material that contains at least one constituent that can be released at least from certain regions of the container into the interior of the container; characterized by the fact that the constituent that can be released is present in the thermoplastic material in a concentration that is above the concentration that is allowable for the packaging of the products, and that at least a portion of the inner surface of the wall of the container is coated in such a way that a release rate of the constituent in the direction of the interior of the container is realized which, at most, is equal to a release rate that would be realized with the use of a thermoplastic material which has a concentration of the constituent that can be released that is near the allowable limit but which does not have an inner coating.

2. Container in accordance with Claim 1, characterized by the fact that the thermoplastic material consists at least partly of recycled material.

3. Container in accordance with Claim 1 or Claim 2, characterized by the fact that the plastic has an acetaldehyde content of at least 10 ppm.

4. Container in accordance with any of Claims 1 to 3, characterized by the fact that the plastic contains a catalyst as one of its constituents.

5. Container in accordance with any of Claims 1 to 4, characterized by the fact that the surface coating is applied as a plasma coating.

6. Container in accordance with any of Claims 1 to 5, characterized by the fact that the surface coating is applied as at least one layer of a silicon oxide of general formula  $\text{SiO}_x$ .

7. Container in accordance with any of Claims 1 to 6, characterized by the fact that the container is shaped in the form of a bottle.

8. Container in accordance with any of Claims 1 to 7, characterized by the fact that the plastic consists at least partly of PET.

9. Container in accordance with any of Claims 1 to 8, characterized by the fact that the surface coating is applied to the surface with the use of an adhesion promoter.

10. Container in accordance with any of Claims 1 to 9, characterized by the fact that the wall consists of a single-layer material.

11. Installation for producing preforms from a thermoplastic material, which has an injection-molding machine with cavities for the preforms, characterized by the fact that the injection-molding machine is coupled with a reactor for producing the thermoplastic material.

12. Installation in accordance with Claim 11, characterized by the fact that at least one temporary storage tank for molten thermoplastic material be installed between the reactor and the injection-molding machine.

13. Installation in accordance with Claim 12, characterized by the fact that the filling and emptying of the temporary storage tank is controlled by the reciprocating motion of a piston.

14. Installation in accordance with any of Claims 11 to 13, characterized by the fact that the reactor is designed as a device for producing PET.

15. Installation in accordance with any of Claims 11 to 14, characterized by the fact that the reactor has a mixing device for supplying a scavenger.

16. Installation in accordance with any of Claims 11 to 15, characterized by the fact that at least two injection-molding machines are coupled with the reactor.

17. Installation in accordance with Claim 16, characterized by the fact that injection-molding machines that are different from one another are coupled with the reactor.

18. Installation in accordance with any of Claims 11 to 17, characterized by the fact that a mixing device for admixing plasticated recycled material is connected at a coupling between the reactor and the injection-molding machine.

19. Method for producing containers from a thermoplastic material, in which the plastic is produced in a reactor and then shaped into preforms by an injection-molding machine, and in which the preforms are formed into containers by blow molding, and then at least a portion of the inner surface of the containers is coated by a plasma coating process, characterized by the fact that the reactor is directly connected to the injection-molding machine, and that the plastic produced by the

reactor is fed from the reactor to the injection-molding machine in the form of a melt.

20. Method in accordance with Claim 19, characterized by the fact that several injection-molding machines are supplied by a common reactor.

21. Method in accordance with Claim 19 or Claim 20, characterized by the fact that the reactor produces a polymer.

22. Method in accordance with any of Claims 19 to 21, characterized by the fact that the reactor produces PET.

23. Method in accordance with any of Claims 19 to 22, characterized by the fact that at least a portion of the plastic melt produced by the reactor is temporarily stored before it is processed by injection molding.

24. Method in accordance with any of Claims 19 to 23, characterized by the fact that recycled material is admixed with the melt before the melt is injected into cavities of the injection-molding machine.

25. Method in accordance with any of Claims 19 to 25, characterized by the fact that at least one scavenger is admixed with the material.